

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A computer-implemented method for selecting an obscured object in a three-dimensional computer-generated model, the method comprising:
displaying the three-dimensional computer-generated model on a computer screen, wherein:
the three-dimensional computer-generated model consists of a plurality of objects used to construct a part;
a first set of the plurality of objects when displayed obscures a second set of the plurality of objects;
the first set of the plurality of objects comprises at least one face; and
the second set of the plurality of objects comprises at least one face;
receiving first input data interpreted as an instruction to change a visibility characteristic of a first one of the first set of the plurality of objects, the first one of the first set identified upon receiving the first input data and by determining that the first one of the first set shares a same location on the computer screen as a cursor;
automatically modifying the visibility characteristic of the first one of the first set to cause a first one of the second set of the plurality of objects to be discernable; [and]
receiving second input data interpreted as an instruction to select the first one of the second set of the plurality of objects, the first one of the second set identified upon receiving the second input data and by determining that the first one of the second set shares the same location on the computer screen as the cursor; and
designating the first one of the second set of the plurality of objects as a first selected object.

2. (Currently Amended) The computer-implemented method of claim 1, wherein:
modifying the visibility characteristic automatically causes the first one of the first set of the plurality of objects to become transparent and discernable.
3. (Currently Amended) The computer-implemented method of claim 1, wherein:
modifying the visibility characteristic automatically causes the first one of the first set of the plurality of objects to become invisible.
4. (Currently Amended) The computer-implemented method of claim 1, wherein:
modifying the visibility characteristic automatically causes the removal of the first one of the first set of the plurality of objects from a display structure used for constructing the computer-generated model.
5. (Original) The computer-implemented method of claim 1, wherein:
designating the first one of the second set of the plurality of objects comprises highlighting the first one of the second set of the plurality of objects.
6. (Original) The computer-implemented method of claim 1, wherein:
highlighting the first one of the second set of objects comprises one of displaying a border of the first one of the second set of the plurality of objects and changing a color of the first one of the second set of the plurality of objects.
7. (Original) The computer-implemented method of claim 1, wherein:
a pointing device generates the first input data; and
the pointing device generates the second input data.
8. (Currently Amended) The computer-implemented method of claim 7~~1~~, wherein:

the pointing device is a mouse device.

9. (Currently Amended) The computer-implemented method of claim 1, wherein:
the three-dimensional computer-generated model is a solid model; and
the first one of the first set of the plurality of objects is a face.
10. (Currently Amended) The computer-implemented method of claim 9, wherein:
the first ~~second~~ one of the second set of the plurality of objects is one of a face, an edge, a vertex, and a surface.
11. (Currently Amended) The computer-implemented method of claim 1, wherein:
the three-dimensional computer-generated model is a solid model;
the first one of the first set of the plurality of objects is one of a vertex or an edge;
the first ~~second~~ one of the second set of the plurality of objects is a first face adjacent to the first one of the first set of the plurality of objects; and further comprising:
automatically modifying a visibility characteristic of a second face adjacent to the first one of the first set of the plurality of objects automatically causing at least one of the plurality of objects positioned behind the second face to be visible.
12. (Currently Amended) The computer-implemented method of claim 1, wherein:
subsequent to designating the first one of the second set of the plurality of objects as a first selected object, automatically reverting the first one of the first set of the plurality of objects to an initial visibility state.
13. (Original) The computer-implemented method of claim 1, further comprising:

receiving third input data interpreted as an instruction to select a second one of the second set of the plurality of objects, the second one of the second set identified upon receiving the third input data and by determining that the second one of the second set shares the same location on the computer screen as the cursor; and
highlighting the second one of the second set of the plurality of objects for distinguishing the second one of the second set as a second selected object.

14. (Currently Amended) The computer-implemented method of claim 1, further comprising:
receiving third input data interpreted as an instruction to change a visibility characteristic of a second one of the first set of the plurality of objects, the second one of the first set identified upon receiving the third input data and by determining that the second one of the first set shares the same location on the computer screen as the cursor;
automatically modifying the visibility characteristic of the second one of the first set of the plurality of objects to reveal a second one of the second set of the plurality of objects positioned behind the second one of the first set;
receiving fourth input data interpreted as an instruction to select a second one of the second set of the plurality of objects, the second one of the second set identified upon receiving the fourth input data and by determining that the second one of the second set shares the same location on the computer screen as the cursor; [and]
designating the second one of the second set of the plurality of objects as a second selected object; and
highlighting the second one of the second set of the plurality of objects to visually indicate the designation as a second selected object.

15. (Currently Amended) The computer-implemented method of claim 14, wherein:

automatically modifying the visibility characteristic of the second one of the first set of the plurality of objects causes the second one of the first set to become transparent and discernable.

16. (Currently Amended) The computer-implemented method of claim 14, wherein:
automatically modifying the visibility characteristic of the second one of the first set of the plurality of objects causes the second one of the first set to become invisible.

17. (Currently Amended) The computer-implemented method of claim 14, wherein:
automatically modifying the visibility characteristic of the second one of the first set of the plurality of objects causes the removal of the second one of the first set from a display structure used for constructing the computer-generated model.

18. (Currently Amended) A computer executable program residing on a computer readable medium~~computer implemented method for selecting an obscured object in a computer-generated model~~, the program method comprising instructions causing a computer to:
enable~~ing~~ selection of at least one of a plurality of obscured objects;
receive~~ing~~ first input data generated by a first button while a cursor positioned in accordance with data from a pointing device is located over a first object;
determine~~ing~~ that the first object is an edge used in the construction of a solid model;
automatically modify~~ing~~ a visibility characteristic of at least one of a plurality of faces sharing the edge to reveal a first one of the plurality of obscured objects positioned in a modeling space behind at least one of the plurality of faces;

receiving second input data generated by a second button while the cursor positioned in accordance with data from the pointing device is located over the first one of the plurality of obscured objects;
designating the first one of the plurality of obscured objects as a first selected object wherein designating comprises highlighting the first one of the plurality of obscured objects; and automatically modifying the visibility characteristic of at least one of the plurality of faces sharing the edge to a previous visibility state.

19. (Currently Amended) The computer executable program ~~implemented method~~ of claim 18, wherein:
the first one of the plurality of obscured objects is a face; and
highlighting the first one of the plurality of obscured objects comprises one of changing a line texture of a plurality of edges of the face and changing a color of the face.
20. (Currently Amended) A digital computer comprising:
a memory, data stored in said memory, and control information stored in said memory; and
a data processor for processing said data in accordance with said control information;
wherein,
said control information is arranged to:
process a data structure defining a three-dimensional model comprised of a plurality of entities used to generate a representation of a real-world three-dimensional object, wherein each one of the plurality of entities is one of a vertex, an edge, a face, and a surface;
receive first input data generated by a button used in conjunction with a pointing device controlling a location of a cursor, wherein the first input data is interpreted as a command to make one of the plurality of entities invisible;

automatically suppress display of a first one of the plurality of entities positioned beneath the cursor when the first input data was received while continuing to display other ones of the plurality of entities; [and]
receive second input data generated by the button, wherein second input data is interpreted as a command to select one of the other ones of the plurality of entities; and
designate a second one of the plurality of entities as a selected entity, the second one designated upon receiving the second input data and determining that the second one shares a common location with the cursor.

21. (Original) The digital computer of claim 20, wherein:
the second one of the plurality of entities is a face; and
said control information is further arranged to highlight the second one of the plurality of entities by one of changing a line texture of a plurality of edges of the face and changing a color of the face.
22. (Currently Amended) The digital computer of claim 20, wherein:
the first one of the plurality of entities is a first edge~~a part~~; and further comprising control information arranged to automatically suppress display of the face that is adjacent to the first edge.
~~the second one of the plurality of entities is one of a part, a vertex, an edge, a face, and a surface.~~